Statement of Basis of the Federal Operating Permit

Union Carbide Corporation

Site Name: Union Carbide Corporation
Area Name: Vinyl Acetate Unit
Physical Location: 3301 5th Ave S
Nearest City: Texas City
County: Galveston

Permit Number: O1924
Project Type: Significant Revision

Standard Industrial Classification (SIC) Code: 2869
SIC Name: Industrial Organic Chemicals

This Statement of Basis sets forth the legal and factual basis for the draft changes to the permit conditions resulting from the significant revision project in accordance with 30 TAC §122.201(a)(4). The applicant has submitted an application for a significant permit revision per §§ 122.219-211. This document may include the following information:

A description of the facility/area process description;
A description of the revision project;
A basis for applying permit shields;
A list of the federal regulatory applicability determinations;
A table listing the determination of applicable requirements;
A list of the New Source Review Requirements;
The rationale for periodic monitoring methods selected;
The rationale for compliance assurance methods selected;
A compliance status; and
A list of available unit attribute forms.

Prepared on: June 28, 2017

Operating Permit
Basis of Determination

Description of Revisions
The following revisions are included in the permit:

Applicable Requirements Summary
- Unit F14A001 (fugitive emissions) – Updated applicability determinations and added NSPS VV applicability.
- Units T14AC0560 & T14AC0561 (storage tanks) – Added with Chapter 115, Storage of VOCs applicability
- Units V14AAZEO, V14ADEHY, V14ALEC, & V14APOLY (distillation unit emission points) – Added with the following applicability:
    - Chapter 115, HRVOC Vent Gas
    - Chapter 115, Vent Gas Controls
    - MACT G

Permit Shield
- Unit F14A001 (fugitive emissions) – Removed NSPS VV permit shield
- Units T14AC0560 & T14AC0561 (storage tanks) – Added NSPS Kb permit shields
- Unit T14AKACMIX (storage tank) – Added Chapter 115, Storage of VOCs permit shield
- Units V14AAZEO, V14ADEHY, V14ALEC, & V14APOLY (distillation unit emission points) – Added NSPS NNN permit shield

New Source Review Authorization References
- Added PBRs 106.261 & 106.262
- Unit C14A030 (flare) – Updated to include PBRs 106.261 & 106.262
- Unit F14A001 (fugitives) – Updated to include PBRs 106.261, 106.262, & 106.472
- Units T14AC0560 & T14AC0561 (storage tanks) – Added PBR 106.472
- Units V14AAZEO, V14ADEHY, V14ALEC, & V14APOLY (distillation unit emission points) – Added NSR permit 1961

Permit Area Process Description
There are three LPO production units - Unit 1, Unit 2 and Unit 3, and one pilot plant - Unit 4. Ethylene, propylene, butene, and hydrogen are fed to the LPO Units to make C3-C5 aldehydes and C4 alcohols. Products manufactured from the aldehydes produced in the LPO Units include chemical intermediated and industrial solvents, acidifiers, and neutralizers.

Unit 1: The Unit 1 process reacts ethylene and butene with syn gas in the presence of a catalyst to form aldehydes which are then either refined as a final product or used as feedstocks to other units in the plant (covered by other permits). This unit produces a three-carbon aldehyde (C3), propionaldehyde, and a five-carbon aldehyde (C5). Propionaldehyde is subject to the requirements of HON and is listed as a SOCMI chemical as referenced by 40 CFR 60, Subparts VV, NNN, and RRR and by 30 TAC 115. VOC, PM10, and HAPs pollutants are emitted from emission units at Unit 1 only when manufacturing propionaldehyde. Equipment included in Unit 1 include: Catalyst Handling Facilities, Reaction and Storage.

Catalyst Handling Facilities - Materials used to make the catalyst precursor are mixed in this facility and include liquids from the Reaction area and solids such as powders. Once mixed, the catalyst precursor materials can be fed to either Unit 1 or Unit 2 or to the Product Storage area for later use.

Reaction - Syn gas, olefin (either ethylene or butene), and catalyst precursor are fed to the reactors, where they are reacted together to form aldehyde product in the presence of the catalyst. Inert gases and excess gaseous feed are vented from the reactors and are either recovered or sent to the Syn Gas Flare or the Mixed Fuel System. Crude aldehyde product is separated from the catalyst and purified using a series of heat exchangers and distillation units. Vents from these distillation units are either recycled within the system or routed to the Syn Gas Flare or the Mixed Fuel System. A small organic liquid stream is sometimes removed and sent to storage for disposal or reuse. The crude and purified aldehyde products are stored in Unit Tanks.

Storage - Liquid products and catalysts are stored in area tanks. The products can be transferred from these tanks back to the Unit or to the In-Plant Distribution area. Vents from these tanks are routed to the Syn Gas Flare.

Unit 2: Ethylene is reacted with syn gas in the presence of a catalyst to form propionaldehyde. The propionaldehyde is then used as feed to other units. Equipment included in Unit 2 include: Catalyst Handling Facilities (shared with Unit 1), Reaction, and Storage (shared with Unit 1).

Reaction - Syn gas, ethylene, hydrogen, and catalyst precursor are fed and then reacted together to form aldehyde product in the presence of the catalyst. Inert gases and excess gaseous feed are vented from the reactors and are recovered or sent to the Syn Gas Flare or the Mixed Fuel System. Crude aldehyde product is separated from the catalyst and purified using a series of heat exchangers and distillation units. Vents from these distillation units are either recycled within the system or routed to the Syn Gas Flare or the Mixed Fuel System. A small organic liquid stream is sometimes removed and sent to storage for disposal or reuse. Aldehyde product is stored in Unit Tanks or sent to the In-Plant Distribution area.

Unit 3: Proylene, syn gas, and hydrogen are fed to Unit 3 where n-butyraldehyde, isobutyraldehyde, and a mixture of these aldehydes are produced. The mixture is further reacted with hydrogen to form a crude mixture of normal butanol and isobutanol. This mixture is purified in the Refining system into normal butanol and isbutanol products. These products are then either sold or used as feeds in downstream units. Unit 3 consists of the following systems: LPO Reaction System, Hydrogenation, Refining, and Storage.

LPO Reaction System - Catalyst precursor is mixed batchwise in the catalyst mix facilities. Syn gas, propylene, and catalyst precursor are fed to the reactors, where they are reacted together to form normal and isobutyraldehyde in the presence of the catalyst. Inert gases and excess gaseous feed are vented from the reactors and are either recovered or sent to the Syn Gas Flare or the Mixed Fuel System. Crude aldehyde product is separated from the catalyst and purified using a series of heat exchangers and distillation units. Vents from these distillation units are either recycled within the system or routed to the Syn Gas Flare or the Mixed Fuel System. A small organic liquid stream is sometimes removed and sent to storage for disposal or reuse. The crude and purified aldehyde products are stored in Unit Tanks or in the In-Plant Distribution Tanks. Another byproduct stream is produced and routed to the Hydrocarbons Unit.

Hydrogenation - Mixed normal and isobutyraldehyde and hydrogen are fed to the hydrogenation system, where they are reacted over a solid catalyst to form butanol. There are two similar but separate systems which operate in parallel. A third, smaller system is fed hydrogen and recycled material from the Refining System to make additional butanol. Inert gases and excess gaseous feed is vented to the Syn Gas Flare or the Mixed Fuel System. The crude mixed butanol is stored in Unit Tanks or in In-Plant Distribution Tanks.

Refining - This system uses five distillation units to separate and purify isobutanol and normal butanol. Gaseous vents from the distillation units are vented to the Syn Gas Flare or the Mixed Fuel System. A small organic liquid stream is removed and is sent to storage for disposal or reuse. Product isobutanol and normal butanol are stored in Unit Tanks or in the In-Plant Distribution Tanks.

Storage - Liquid products and intermediates from the Unit can be stored in the tanks in this area and then can be transferred from these tanks back to the Unit or to the In-Plant Distribution area. Vents from these tanks are routed to the Syn Gas Flare.

Unit 4 (Pilot Plant) - Unit 4 is operated in batch mode on an infrequent basis. The system is used to study the reaction of an aldehyde with hydrogen to make an alcohol. Feed aldehyde and hydrogen are fed to a reactor, where they are reacted to form an alcohol in the presence of a catalyst. Excess feeds and inert gases are vented to the Fuel and Raw Materials (FARM) Flare. The FARM Flare is addressed in the Hydrocarbons Unit application. Product alcohol flows to two make tanks. Sample taps throughout Unit 4 allow samples to be condensed where liquid can be drawn off and gas vented to the FARM Flare header. The following types of equipment are present at the pilot plant and either do not have any potentially applicable requirements or are subject only to site-wide requirements: Feed tank, Small Reactors, Cycle Gas Compressors, and Make Tanks.

FOPs at Site

The “application area” consists of the emission units and that portion of the site included in the application and this permit. Multiple FOPs may be issued to a site in accordance with 30 TAC § 122.201(e). When there is only one area for the site,

then the application information and permit will include all units at the site. Additional FOPs that exist at the site, if any, are listed below.

Additional FOPs: O1433, O1913, O1914, O1916, O1919, O1920, O1921, O1923

Major Source Pollutants

The table below specifies the pollutants for which the site is a major source:

Major Pollutants	VOC, SO2, PM, NOX, HAPS, CO

Reading State of Texas's Federal Operating Permit

The Title V Federal Operating Permit (FOP) lists all state and federal air emission regulations and New Source Review (NSR) authorizations (collectively known as "applicable requirements") that apply at a particular site or permit area (in the event a site has multiple FOPs). **The FOP does not authorize new emissions or new construction activities.** The FOP begins with an introductory page which is common to all Title V permits. This page gives the details of the company, states the authority of the issuing agency, requires the company to operate in accordance with this permit and 30 Texas Administrative Code (TAC) Chapter 122, requires adherence with NSR requirements of 30 TAC Chapter 116, and finally indicates the permit number and the issuance date.

This is followed by the table of contents, which is generally composed of the following elements. Not all permits will have all of the elements.

- General Terms and Conditions
- Special Terms and Conditions
    - Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting
    - Additional Monitoring Requirements
    - New Source Review Authorization Requirements
    - Compliance Requirements
    - Protection of Stratosphere Ozone
    - Permit Location
    - Permit Shield (30 TAC § 122.148)
- Attachments
    - Applicable Requirements Summary
        - Unit Summary
        - Applicable Requirements Summary
    - Additional Monitoring Requirements
    - Permit Shield
    - New Source Review Authorization References
    - Compliance Plan
    - Alternative Requirements
- Appendix A
    - Acronym list

General Terms and Conditions

The General Terms and Conditions are the same and appear in all permits. The first paragraph lists the specific citations for 30 TAC Chapter 122 requirements that apply to all Title V permit holders. The second paragraph describes the requirements for record retention. The third paragraph provides details for voiding the permit, if applicable. The fourth paragraph states that the permit holder shall comply with the requirements of 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit. The fifth paragraph provides details on submission of reports required by the permit.

Special Terms and Conditions

Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting. The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ1 and are not required to be listed separately on a OP-UA Form or Form OP-SUM. Form OP-SUM must list all units addressed in the application and provide identifying information, applicable OP-UA Forms, and preconstruction authorizations. The various OP-UA Forms provide the characteristics of each unit from which applicable requirements are established. Some exceptions exist as a few units may have both site-wide requirements and unit specific requirements.

Other conditions. The other entries under special terms and conditions are in general terms referring to compliance with the more detailed data listed in the attachments.

Attachments

Applicable Requirements Summary. The first attachment, the Applicable Requirements Summary, has two tables, addressing unit specific requirements. The first table, the Unit Summary, includes a list of units with applicable requirements, the unit type, the applicable regulation, and the requirement driver. The intent of the requirement driver is to inform the reader that a given unit may have several different operating scenarios and the differences between those operating scenarios.

The applicable requirements summary table provides the detailed citations of the rules that apply to the various units. For each unit and operating scenario, there is an added modifier called the “index number,” detailed citations specifying monitoring and testing requirements, recordkeeping requirements, and reporting requirements. The data for this table are based on data supplied by the applicant on the OP-SUM and various OP-UA forms.

Additional Monitoring Requirement. The next attachment includes additional monitoring the applicant must perform to ensure compliance with the applicable standard. Compliance assurance monitoring (CAM) is often required to provide a reasonable assurance of compliance with applicable emission limitations/standards for large emission units that use control devices to achieve compliance with applicant requirements. When necessary, periodic monitoring (PM) requirements are specified for certain parameters (i.e. feed rates, flow rates, temperature, fuel type and consumption, etc.) to determine if a term and condition or emission unit is operating within specified limits to control emissions. These additional monitoring approaches may be required for two reasons. First, the applicable rules do not adequately specify monitoring requirements (exception- Maximum Achievable Control Technology Standards (MACTs) generally have sufficient monitoring), and second, monitoring may be required to fill gaps in the monitoring requirements of certain applicable requirements. In situations where the NSR permit is the applicable requirement requiring extra monitoring for a specific emission unit, the preferred solution is to have the monitoring requirements in the NSR permit updated so that all NSR requirements are consolidated in the NSR permit.

Permit Shield. A permit may or may not have a permit shield, depending on whether an applicant has applied for, and justified the granting of, a permit shield. A permit shield is a special condition included in the permit document stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirement(s) or specified applicable state-only requirement(s).

New Source Review Authorization References. All activities which are related to emissions in the state of Texas must have a NSR authorization prior to beginning construction. This section lists all units in the permit and the NSR authorization that allowed the unit to be constructed or modified. Units that do not have unit specific applicable requirements other than the NSR authorization do not need to be listed in this attachment. While NSR permits are not physically a part of the Title V permit, they are legally incorporated into the Title V permit by reference. Those NSR permits whose emissions exceed certain PSD/NA thresholds must also undergo a Federal review of federally regulated pollutants in addition to review for state regulated pollutants.

Compliance Plan. A permit may have a compliance schedule attachment for listing corrective actions plans for any emission unit that is out of compliance with an applicable requirement.

Alternative Requirements. This attachment will list any alternative monitoring plans or alternative means of compliance for applicable requirements that have been approved by the EPA Administrator and/or the TCEQ Executive Director.

Appendix A

Acronym list. This attachment lists the common acronyms used when discussing the FOPs.

Federal Regulatory Applicability Determinations

The following chart summarizes the applicability of the principal air pollution regulatory programs to the permit area:

Regulatory Program	Applicability (Yes/No)
Prevention of Significant Deterioration (PSD)	No
Nonattainment New Source Review (NNSR)	No
Minor NSR	Yes
40 CFR Part 60 - New Source Performance Standards	Yes
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)	No
40 CFR Part 63 - NESHAPs for Source Categories	Yes
Title IV (Acid Rain) of the Clean Air Act (CAA)	No
Title V (Federal Operating Permits) of the CAA	Yes
Title VI (Stratospheric Ozone Protection) of the CAA	No
CSAPR (Cross-State Air Pollution Rule)	No

Basis for Applying Permit Shields

An operating permit applicant has the opportunity to specifically request a permit shield to document that specific applicable requirements do not apply to emission units in the permit. A permit shield is a special condition stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements. A permit shield has been requested in the application for specific emission units. For the permit shield requests that have been approved, the basis of determination for regulations that the owner/operator need not comply with are located in the “Permit Shield” attachment of the permit.

Insignificant Activities

In general, units not meeting the criteria for inclusion on either Form OP-SUM or Form OP-REQ1 are not required to be addressed in the operating permit application. Examples of these types of units include, but are not limited to, the following:

1. Office activities such as photocopying, blueprint copying, and photographic processes.
2. Sanitary sewage collection and treatment facilities other than those used to incinerate wastewater treatment plant sludge. Stacks or vents for sanitary sewer plumbing traps are also included.

3. Food preparation facilities including, but not limited to, restaurants and cafeterias used for preparing food or beverages primarily for consumption on the premises.
4. Outdoor barbecue pits, campfires, and fireplaces.
5. Laundry dryers, extractors, and tumblers processing bedding, clothing, or other fabric items generated primarily at the premises. This does not include emissions from dry cleaning systems using perchloroethylene or petroleum solvents.
6. Facilities storing only dry, sweet natural gas, including natural gas pressure regulator vents.
7. Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.
8. Storage and handling of sealed portable containers, cylinders, or sealed drums.
9. Vehicle exhaust from maintenance or repair shops.
10. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
11. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.
12. Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
13. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
14. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
15. Well cellars.
16. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
17. Crucible or pot furnaces with a brim full capacity of less than 450 cubic inches of any molten metal.
18. Equipment used exclusively for the melting or application of wax.
19. All closed tumblers used for the cleaning or deburring of metal products without abrasive blasting, and all open tumblers with a batch capacity of 1,000 lbs. or less.
20. Shell core and shell mold manufacturing machines.
21. Sand or investment molds with a capacity of 100 lbs. or less used for the casting of metals;
22. Equipment used for inspection of metal products.
23. Equipment used exclusively for rolling, forging, pressing, drawing, spinning, or extruding either hot or cold metals by some mechanical means.
24. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
25. Battery recharging areas.
26. Brazing, soldering, or welding equipment.

Determination of Applicable Requirements

The tables below include the applicability determinations for the emission units, the index number(s) where applicable, and all relevant unit attribute information used to form the basis of the applicability determination. The unit attribute information is a description of the physical properties of an emission unit which is used to determine the requirements to which the permit holder must comply. For more information about the descriptions of the unit attributes specific Unit Attribute Forms may be viewed at www.tceq.texas.gov/permitting/air/nav/air_all_ua_forms.html.

A list of unit attribute forms is included at the end of this document. Some examples of unit attributes include construction date; product stored in a tank; boiler fuel type; etc.. Generally, multiple attributes are needed to determine the requirements for a given emission unit and index number. The table below lists these attributes in the column entitled "Basis of Determination." Attributes that demonstrate that an applicable requirement applies will be the factual basis for the specific citations in an applicable requirement that apply to a unit for that index number. The TCEQ Air Permits Division has developed flowcharts for determining applicability of state and federal regulations based on the unit attribute information in a Decision Support System (DSS). These flowcharts can be accessed via the internet at

www.tceq.texas.gov/permitting/air/nav/air_supportsys.html. The Air Permits Division staff may also be contacted for assistance at (512) 239-1250.

The attributes for each unit and corresponding index number provide the basis for determining the specific legal citations in an applicable requirement that apply, including emission limitations or standards, monitoring, recordkeeping, and reporting. The rules were found to apply or not apply by using the unit attributes as answers to decision questions found in the flowcharts of the DSS. Some additional attributes indicate which legal citations of a rule apply. The legal citations that apply to each emission unit may be found in the Applicable Requirements Summary table of the draft permit. There may be some entries or rows of units and rules not found in the permit, or if the permit contains a permit shield, repeated in the permit shield area. These are sets of attributes that describe negative applicability, or; in other words, the reason why a potentially applicable requirement does not apply.

If applicability determinations have been made which differ from the available flowcharts, an explanation of the decisions involved in the applicability determination is specified in the column “Changes and Exceptions to RRT.” If there were no exceptions to the DSS, then this column has been removed.

The draft permit includes all emission limitations or standards, monitoring, recordkeeping and reporting required by each applicable requirement. If an applicable requirement does not require monitoring, recordkeeping, or reporting, the word “None” will appear in the Applicable Requirements Summary table. If additional periodic monitoring is required for an applicable requirement, it will be explained in detail in the portion of this document entitled “Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected.”

When attributes demonstrate that a unit is not subject to an applicable requirement, the applicant may request a permit shield for those items. The portion of this document entitled “Basis for Applying Permit Shields” specifies which units, if any, have a permit shield.

Operational Flexibility

When an emission unit has multiple operating scenarios, it will have a different index number associated with each operating condition. This means that units are permitted to operate under multiple operating conditions. The applicable requirements for each operating condition are determined by a unique set of unit attributes. For example, a tank may store two different products at different points in time. The tank may, therefore, need to comply with two distinct sets of requirements, depending on the product that is stored. Both sets of requirements are included in the permit, so that the permit holder may store either product in the tank.

Determination of Applicable Requirements

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11010	30 TAC Chapter 115, Storage of VOCs	R5112-11010	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons Control Device Type = Flare
T14A11010	40 CFR Part 60, Subpart K	60K-11010	Construction/Modification Date = On or before June 11, 1973
T14A11010	40 CFR Part 63, Subpart G	63G-11010	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Bypass Lines = Closed vent system has no by-pass lines. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Control Device Type = Flare Emission Control Type = Closed vent system (CVS) and control device (fixed roof)
T14A11020	30 TAC Chapter 115, Storage of VOCs	R5112-11020	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons Control Device Type = Flare
T14A11020	40 CFR Part 60, Subpart K	60K-11020	Construction/Modification Date = On or before June 11, 1973

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11020	40 CFR Part 63, Subpart G	63G-11020	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Closed Vent System = Closed vent system is subject to § 63.172 of Subpart H NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Bypass Lines = Closed vent system has no by-pass lines. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Control Device Type = Flare Emission Control Type = Closed vent system (CVS) and control device (fixed roof)
T14A11030	30 TAC Chapter 115, Storage of VOCs	R5112-11030	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons Control Device Type = Flare
T14A11030	40 CFR Part 60, Subpart K	60K-11030	Construction/Modification Date = On or before June 11, 1973
T14A11030	40 CFR Part 63, Subpart G	63G-11030	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11032	30 TAC Chapter 115, Storage of VOCs	R5112-11032	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons Control Device Type = Flare
T14A11032	40 CFR Part 60, Subpart K	60K-11032	Construction/Modification Date = On or before June 11, 1973
T14A11032	40 CFR Part 63, Subpart G	63G-11032	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11034	30 TAC Chapter 115, Storage of VOCs	R5112-11034	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons Control Device Type = Flare
T14A11034	40 CFR Part 60, Subpart K	60K-11034	Construction/Modification Date = On or before June 11, 1973
T14A11034	40 CFR Part 63, Subpart G	63G-11034	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11036	30 TAC Chapter 115, Storage of VOCs	R5112-11036	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11036	40 CFR Part 60, Subpart K	60K-11036	Construction/Modification Date = On or before June 11, 1973
T14A11036	40 CFR Part 63, Subpart G	63G-11036	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11045	30 TAC Chapter 115, Storage of VOCs	R5112-11045	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11045	40 CFR Part 60, Subpart K	60K-11045	Construction/Modification Date = On or before June 11, 1973
T14A11045	40 CFR Part 63, Subpart G	63G-11045	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11051	30 TAC Chapter 115, Storage of VOCs	R5112-11051	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11051	40 CFR Part 60, Subpart K	60K-11051	Construction/Modification Date = On or before June 11, 1973
T14A11051	40 CFR Part 63, Subpart G	63G-11051	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11054	30 TAC Chapter 115, Storage of VOCs	R5112-11054	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons Control Device Type = Flare

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11054	40 CFR Part 60, Subpart K	60K-11054	Construction/Modification Date = On or before June 11, 1973
T14A11054	40 CFR Part 63, Subpart G	63G-11054	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11063	30 TAC Chapter 115, Storage of VOCs	R5112-11063	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11063	40 CFR Part 60, Subpart K	60K-11063	Construction/Modification Date = On or before June 11, 1973
T14A11063	40 CFR Part 63, Subpart G	63G-11063	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14A11065	30 TAC Chapter 115, Storage of VOCs	R5112-11065	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11065	40 CFR Part 60, Subpart K	60K-11065	Construction/Modification Date = On or before June 11, 1973
T14A11065	40 CFR Part 63, Subpart G	63G-11065	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.

Unit ID	Regulation	Index Number	Basis of Determination*
T14A11072	30 TAC Chapter 115, Storage of VOCs	R5112-11072	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using an internal floating roof (IFR) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11072	40 CFR Part 60, Subpart K	60K-11072	Construction/Modification Date = On or before June 11, 1973
T14A11072	40 CFR Part 63, Subpart G	63G-11072	MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G). Seal Type = Metallic shoe seal (as defined in 40 CFR § 63.111) NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa) Emission Control Type = Internal floating roof
T14A11075	30 TAC Chapter 115, Storage of VOCs	R5112-11075	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
T14A11075	40 CFR Part 60, Subpart K	60K-11075	Construction/Modification Date = On or before June 11, 1973
T14A11075	40 CFR Part 63, Subpart G	63G-11075	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14AC0560	30 TAC Chapter 115, Storage of VOCs	R5112-01	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons

Unit ID	Regulation	Index Number	Basis of Determination*
T14AC0561	30 TAC Chapter 115, Storage of VOCs	R5112-01	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 25,000 gallons but less than or equal to 40,000 gallons
T14AKACMIX	30 TAC Chapter 115, Storage of VOCs	R5112-KACM	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is less than or equal to 1,000 gallons
T14AKACMIX	40 CFR Part 60, Subpart K	60K-KACM	Construction/Modification Date = On or before June 11, 1973
T14AKACMIX	40 CFR Part 63, Subpart G	63G-KACM	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
T14ANPOLYS	30 TAC Chapter 115, Storage of VOCs	R5112-NPOLY	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is less than or equal to 1,000 gallons
T14ANPOLYS	40 CFR Part 60, Subpart K	60K-NPOLY	Construction/Modification Date = On or before June 11, 1973
T14ANPOLYS	40 CFR Part 63, Subpart G	63G-NPOLY	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.

Unit ID	Regulation	Index Number	Basis of Determination*
T14APOLYS	30 TAC Chapter 115, Storage of VOCs	R5112-POLY	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a vapor recovery system (VRS) True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons Control Device Type = Flare
T14APOLYS	40 CFR Part 60, Subpart K	60K-POLY	Construction/Modification Date = On or before June 11, 1973
T14APOLYS	40 CFR Part 63, Subpart G	63G-POLY	MACT Subpart F/G Applicability = The unit is a Group 2 vessel. NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y. NSPS Subpart Kb Applicability = The unit is not subject to 40 CFR Part 60, Subpart Kb.
D14A-TTRK	30 TAC Chapter 115, Loading and Unloading of VOC	R5212-TTRK	Chapter 115 Control Device Type = Control device other than a flare, vapor combustor, catalytic incinerator, direct flame incinerator, chiller, or carbon adsorption system. Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal. Alternate Control Requirement (ACR) = No alternate control requirements are being utilized. Vapor Tight = Not all liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected. Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline. Transfer Type = Only loading. True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia. Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized. Control Options = Vapor balance system.
L14A059	30 TAC Chapter 115, Loading and Unloading of VOC	R5212-L14A059	Chapter 115 Control Device Type = No control device. Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal. Alternate Control Requirement (ACR) = No alternate control requirements are being utilized. Vapor Tight = Not all liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected. Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline. Transfer Type = Loading and unloading. True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia. Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized. Control Options = Vapor balance system.

Unit ID	Regulation	Index Number	Basis of Determination*
L14A059	40 CFR Part 63, Subpart EEEE	63EEEE-1	Existing Source = Source is an existing source Transfer Operation = Transfer rack only loads organic liquids Transfer Volume = At least 800,000 gallons, but less than 10,000,000 gallons, of organic containing liquids are transferred by the organic loading distribution facility annually. Weight Percent HAP = Liquids transferred contain 98 percent by weight or greater HAP
C14A030	30 TAC Chapter 111, Visible Emissions	R1111-C14A030	Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1. Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions. Alternate Opacity Limitation = Not complying with an alternate opacity limit under 30 TAC § 111.113. Construction Date = Newest source routing emissions to the flare began construction after January 31, 1972.
C14A030	30 TAC Chapter 115, HRVOC Vent Gas	R5720-C14A030	Monitoring Requirements = Flare is complying with the continuous monitoring requirements of § 115.725(d). Out of Service = Flare was not permanently out of service by April 1, 2006. Total Gas Stream = Flare receives a total gas stream with greater than 100 ppmv HRVOC at some time. Gas Stream Concentration = Flare receives a gas stream containing 5% or greater HRVOC by weight at some time. Alternative Monitoring = No alternative monitoring and test methods are used. Minor Modificaiton = No minor modifications to the monitoring and test methods are used. Tank Service = Flare is not in dedicated service for storage tanks with 95% or greater of an individual HRVOC. Flare Type = Flare is in multi-purpose service.
C14A030	40 CFR Part 60, Subpart A	60.18-C14A030	Subject to 40 CFR § 60.18 = Flare is subject to 40 CFR § 60.18. Adhering to Heat Content Specifications = Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4). Flare Assist Type = Steam-assisted Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec). Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).
C14A030	40 CFR Part 63, Subpart A	63A-C14A030	Required Under 40 CFR Part 63 = Flare is required by a Subpart under 40 CFR Part 63. Heat Content Specification = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8). Flare Assist Type = Steam assisted Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec). Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).
F14A001	30 TAC Chapter 115, HRVOC Fugitive Emissions	R5780-ALL	SOP Index No. = Owner/Operator assumes HRVOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter H, Division 3 with no alternate control or control device.

Unit ID	Regulation	Index Number	Basis of Determination*
F14A001	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5352-ALL	SOP/GOP Index No. = Owner/Operator assumes VOC fugitive control requirements for all components subject to 30 TAC Chapter 115, Subchapter D, Division 3 with no alternate control or control device.
F14A001	40 CFR Part 60, Subpart VV	60VV-ALL	SOP Index No. = Owner or operator assumes fugitive unit control requirements for all components in VOC service subject to 40 CFR Part 60, Subpart VV with no alternate control or control devices.
F14A001	40 CFR Part 61, Subpart V	61V-1	Vacuum Service = The fugitive unit contains components in vacuum service. VHAP Service = The fugitive unit contains no components in VHAP service.
F14A001	40 CFR Part 63, Subpart H	63H-ALL	SOP Index No. = Owner/Operator assumes fugitive control requirements for all components in VOC or VHAP service subject to 40 CFR Part 63, Subpart H with no alternated control or control device. ANY (CLOSED VENT SYSTEMS) = COMPONENT PRESENT FLARES (CLOSED VENT SYSTEMS) = COMPONENT PRESENT
E14A028	30 TAC Chapter 115, HRVOC Vent Gas	R5720-E14A028	HRVOC Concentration = The vent gas stream has a HRVOC concentration of at least 100 ppmv at some times. Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft3/hr). Exempt Date = The vent gas stream is not exempt. Vent Gas Stream Control = Vent gas stream is controlled by a flare.
E14A028	30 TAC Chapter 115, Vent Gas Controls	R5120-E14A028	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.

Unit ID	Regulation	Index Number	Basis of Determination*
E14A028	40 CFR Part 63, Subpart G	63G-E14A028	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
V14AAZEO	30 TAC Chapter 115, HRVOC Vent Gas	R5720-01	HRVOC Concentration = The vent gas stream has a HRVOC concentration of at least 100 ppmv at some times. Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft3/hr). Vent Gas Stream Control = Vent gas stream is controlled by a flare.
V14AAZEO	30 TAC Chapter 115, Vent Gas Controls	R5120-01	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.
V14AAZEO	40 CFR Part 63, Subpart G	63G-01	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.

Unit ID	Regulation	Index Number	Basis of Determination*
V14AC02OH	30 TAC Chapter 115, Vent Gas Controls	R5120-V14AC02OH	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.
V14AC02OH	40 CFR Part 63, Subpart G	63G-V14AC02OH	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
V14ADEHY	30 TAC Chapter 115, HRVOC Vent Gas	R5720-01	HRVOC Concentration = The vent gas stream has a HRVOC concentration of at least 100 ppmv at some times. Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft3/hr). Vent Gas Stream Control = Vent gas stream is controlled by a flare.

Unit ID	Regulation	Index Number	Basis of Determination*
V14ADEHY	30 TAC Chapter 115, Vent Gas Controls	R5120-01	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.
V14ADEHY	40 CFR Part 63, Subpart G	63G-01	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
V14ALEC	30 TAC Chapter 115, HRVOC Vent Gas	R5720-01	HRVOC Concentration = The vent gas stream has a HRVOC concentration of at least 100 ppmv at some times. Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft3/hr). Vent Gas Stream Control = Vent gas stream is controlled by a flare.

Unit ID	Regulation	Index Number	Basis of Determination*
V14ALEC	30 TAC Chapter 115, Vent Gas Controls	R5120-01	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.
V14ALEC	40 CFR Part 63, Subpart G	63G-01	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
V14APOLY	30 TAC Chapter 115, HRVOC Vent Gas	R5720-01	HRVOC Concentration = The vent gas stream has a HRVOC concentration of at least 100 ppmv at some times. Max Flow Rate = The vent gas stream has a maximum potential flow rate greater than 100 dry standard cubic feet per hour (ft3/hr). Vent Gas Stream Control = Vent gas stream is controlled by a flare.

Unit ID	Regulation	Index Number	Basis of Determination*
V14APOLY	30 TAC Chapter 115, Vent Gas Controls	R5120-01	Alternate Control Requirement = Alternate control is not used. Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source. Total Design Capacity = Total design capacity is greater than or equal to 1,100 tons per year for all chemicals produced within that unit. Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2. Flow Rate or VOC Concentration = Flow rate is greater than or equal to 0.011 scm/min or the VOC concentration is greater than or equal to 500 ppmv. 40 CFR 60 Subpart NNN Requirements = The distillation unit vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart NNN: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices. Control Device Type = Smokeless flare Vent Type = Vent gas stream originates from a synthetic organic chemical manufacturing industry reactor process or distillation operation, as defined in 30 TAC § 115.10. 40 CFR 60 Subpart RRR Requirements = The reactor process vent gas stream satisfies neither of the following requirements of 40 CFR Part 60, Subpart RRR: TRE index value is greater than 8.0; or TRE index value is greater than 1.0 without the use of VOC emission control devices.
V14APOLY	40 CFR Part 63, Subpart G	63G-01	Alternate Monitoring Parameters = The EPA Administrator has not approved alternate monitoring parameters or alternate monitoring parameters are not used. Control Device = Flare Overlap = Title 40 CFR Part 60, Subpart NNN Group 1 = The process vent meets the definition of a Group 1 process vent. Continuous Monitoring = Complying with the continuous monitoring requirements of 40 CFR §§ 63.114, 63.117, and 63.118. Halogenated = Vent stream is not halogenated. By-pass Lines = The vent system does not contain by-pass lines that can divert the vent stream from the control device.
PRO-VA5HON	40 CFR Part 63, Subpart F	63F-VA5HON	Applicable Chemicals = The chemical manufacturing process unit manufactures, as a primary product, one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or 40 CFR § 63.100(b)(1)(ii). Intervening Cooling Fluid = There is an intervening cooling fluid containing less than 5 percent by weight of total HAPs listed in Table 4 of 40 CFR Part 63, Subpart F, between the process and cooling water. Table 2 HAP = The chemical manufacturing process unit uses as a reactant or manufactures, as a product or co-product, one or more of the organic hazardous air pollutants in Table 2. Alternate Means of Emission Limitation = No alternative means of emission limitation has been approved by the EPA Administrator to achieve a reduction in organic HAP emission or no alternate has been requested. Heat Exchange System = A heat exchange system is utilized. Cooling Water Pressure = The heat exchange system is not operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

* - The “unit attributes” or operating conditions that determine what requirements apply

NSR Versus Title V FOP

The state of Texas has two Air permitting programs, New Source Review (NSR) and Title V Federal Operating Permits. The two programs are substantially different both in intent and permit content.

NSR is a preconstruction permitting program authorized by the Texas Clean Air Act and Title I of the Federal Clean Air Act (FCAA). The processing of these permits is governed by 30 Texas Administrative Code (TAC) Chapter 116.111. The Title V Federal Operating Program is a federal program authorized under Title V of the FCAA that has been delegated to the state of Texas to administer and is governed by 30 TAC Chapter 122. The major differences between the two permitting programs are listed in the table below:

NSR Permit	Federal Operating Permit(FOP)
Issued Prior to new Construction or modification of an existing facility	For initial permit with application shield, can be issued after operation commences; significant revisions require approval prior to operation.
Authorizes air emissions	Codifies existing applicable requirements, does not authorize new emissions
Ensures issued permits are protective of the environment and human health by conducting a health effects review and that requirement for best available control technology (BACT) is implemented.	Applicable requirements listed in permit are used by the inspectors to ensure proper operation of the site as authorized. Ensures that adequate monitoring is in place to allow compliance determination with the FOP.
Up to two Public notices may be required. Opportunity for public comment and contested case hearings for some authorizations.	One public notice required. Opportunity for public comments. No contested case hearings.
Applies to all point source emissions in the state.	Applies to all major sources and some non-major sources identified by the EPA.
Applies to facilities: a portion of site or individual emission sources	One or multiple FOPs cover the entire site (consists of multiple facilities)
Permits include terms and conditions under which the applicant must construct and operate its various equipment and processes on a facility basis.	Permits include terms and conditions that specify the general operational requirements of the site; and also include codification of all applicable requirements for emission units at the site.
Opportunity for EPA review for Federal Prevention of Significant Deterioration (PSD) and Nonattainment (NA) permits for major sources.	Opportunity for EPA review, Affected states review, and a Public petition period for every FOP.
Permits have a table listing maximum emission limits for pollutants	Permit has an applicable requirements table and Periodic Monitoring (PM) / Compliance Assurance Monitoring (CAM) tables which document applicable monitoring requirements.
Permits can be altered or amended upon application by company. Permits must be issued before construction or modification of facilities can begin.	Permits can be revised through several revision processes, which provide for different levels of public notice and opportunity to comment. Changes that would be significant revisions require that a revised permit be issued before those changes can be operated.
NSR permits are issued independent of FOP requirements.	FOP are independent of NSR permits, but contain a list of all NSR permits incorporated by reference

New Source Review Requirements

Below is a list of the New Source Review (NSR) permits for the permitted area. These NSR permits are incorporated by reference into the operating permit and are enforceable under it. These permits can be found in the main TCEQ file room,

located on the first floor of Building E, 12100 Park 35 Circle, Austin, Texas. The Public Education Program may be contacted at 1-800-687-4040 or the Air Permits Division (APD) may be contacted at 1-512-239-1250 for help with any question.

Additionally, the site contains emission units that are permitted by rule under the requirements of 30 TAC Chapter 106, Permits by Rule. The following table specifies the permits by rule that apply to the site. All current permits by rule are contained in Chapter 106. Outdated 30 TAC Chapter 106 permits by rule may be viewed at the following Web site:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/old106list/index106.html

Outdated Standard Exemption lists may be viewed at the following Web site:

www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/oldselist/se_index.html

The status of air permits and applications and a link to the Air Permits Remote Document Server is located at the following Web site:

www.tceq.texas.gov/permitting/air/nav/air_status_permits.html

New Source Review Authorization References

Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 1961	Issuance Date: 12/20/2013
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.476	Version No./Date: 09/04/2000
Number: 106.532	Version No./Date: 09/04/2000

Emission Units and Emission Points

In air permitting terminology, any source capable of generating emissions (for example, an engine or a sandblasting area) is called an Emission Unit. For purposes of Title V, emission units are specifically listed in the operating permit when they have applicable requirements other than New Source Review (NSR), or when they are listed in the permit shield table.

The actual physical location where the emissions enter the atmosphere (for example, an engine stack or a sand-blasting yard) is called an emission point. For New Source Review preconstruction permitting purposes, every emission unit has an associated emission point. Emission limits are listed in an NSR permit, associated with an emission point. This list of emission points and emission limits per pollutant is commonly referred to as the “Maximum Allowable Emission Rate Table”, or “MAERT” for short. Specifically, the MAERT lists the Emission Point Number (EPN) that identifies the emission point, followed immediately by the Source Name, identifying the emission unit that is the source of those emissions on this table.

Thus, by reference, an emission unit in a Title V operating permit is linked by reference number to an NSR authorization, and its related emission point.

Monitoring Sufficiency

Federal and state rules, 40 CFR § 70.6(a)(3)(i)(B) and 30 TAC § 122.142(c) respectively, require that each federal operating permit include additional monitoring for applicable requirements that lack periodic or instrumental monitoring (which may include recordkeeping that serves as monitoring) that yields reliable data from a relevant time period that are representative of the emission unit's compliance with the applicable emission limitation or standard. Furthermore, the federal operating permit must include compliance assurance monitoring (CAM) requirements for emission sources that meet the applicability criteria of 40 CFR Part 64 in accordance with 40 CFR § 70.6(a)(3)(i)(A) and 30 TAC § 122.604(b).

With the exception of any emission units listed in the Periodic Monitoring or CAM Summaries in the FOP, the TCEQ Executive Director has determined that the permit contains sufficient monitoring, testing, recordkeeping, and reporting requirements that assure compliance with the applicable requirements. If applicable, each emission unit that requires additional monitoring in the form of periodic monitoring or CAM is described in further detail under the Rationale for CAM/PM Methods Selected section following this paragraph.

Compliance Review

1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on June 15, 2017.
   Site rating: 0.00 / High Company rating: 1.08 / Satisfactory
   (High < 0.10; Satisfactory ≥ 0.10 and < 55; Unsatisfactory > 55)
2. Has the permit changed on the basis of the compliance history or site/company rating?.....No

Available Unit Attribute Forms

OP-UA1 - Miscellaneous and Generic Unit Attributes
OP-UA2 - Stationary Reciprocating Internal Combustion Engine Attributes
OP-UA3 - Storage Tank/Vessel Attributes
OP-UA4 - Loading/Unloading Operations Attributes
OP-UA5 - Process Heater/Furnace Attributes
OP-UA6 - Boiler/Steam Generator/Steam Generating Unit Attributes
OP-UA7 - Flare Attributes
OP-UA8 - Coal Preparation Plant Attributes
OP-UA9 - Nonmetallic Mineral Process Plant Attributes
OP-UA10 - Gas Sweetening/Sulfur Recovery Unit Attributes
OP-UA11 - Stationary Turbine Attributes
OP-UA12 - Fugitive Emission Unit Attributes
OP-UA13 - Industrial Process Cooling Tower Attributes
OP-UA14 - Water Separator Attributes
OP-UA15 - Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes
OP-UA16 - Solvent Degreasing Machine Attributes
OP-UA17 - Distillation Unit Attributes
OP-UA18 - Surface Coating Operations Attributes
OP-UA19 - Wastewater Unit Attributes
OP-UA20 - Asphalt Operations Attributes
OP-UA21 - Grain Elevator Attributes
OP-UA22 - Printing Attributes
OP-UA24 - Wool Fiberglass Insulation Manufacturing Plant Attributes
OP-UA25 - Synthetic Fiber Production Attributes
OP-UA26 - Electroplating and Anodizing Unit Attributes
OP-UA27 - Nitric Acid Manufacturing Attributes
OP-UA28 - Polymer Manufacturing Attributes
OP-UA29 - Glass Manufacturing Unit Attributes
OP-UA30 - Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill Attributes
OP-UA31 - Lead Smelting Attributes
OP-UA32 - Copper and Zinc Smelting/Brass and Bronze Production Attributes
OP-UA33 - Metallic Mineral Processing Plant Attributes
OP-UA34 - Pharmaceutical Manufacturing
OP-UA35 - Incinerator Attributes
OP-UA36 - Steel Plant Unit Attributes
OP-UA37 - Basic Oxygen Process Furnace Unit Attributes

OP-UA38 - Lead-Acid Battery Manufacturing Plant Attributes
OP-UA39 - Sterilization Source Attributes
OP-UA40 - Ferroalloy Production Facility Attributes
OP-UA41 - Dry Cleaning Facility Attributes
OP-UA42 - Phosphate Fertilizer Manufacturing Attributes
OP-UA43 - Sulfuric Acid Production Attributes
OP-UA44 - Municipal Solid Waste Landfill/Waste Disposal Site Attributes
OP-UA45 - Surface Impoundment Attributes
OP-UA46 - Epoxy Resins and Non-Nylon Polyamides Production Attributes
OP-UA47 - Ship Building and Ship Repair Unit Attributes
OP-UA48 - Air Oxidation Unit Process Attributes
OP-UA49 - Vacuum-Producing System Attributes
OP-UA50 - Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas Combustion Device/Claus Sulfur Recovery Plant Attributes
OP-UA51 - Dryer/Kiln/Oven Attributes
OP-UA52 - Closed Vent Systems and Control Devices
OP-UA53 - Beryllium Processing Attributes
OP-UA54 - Mercury Chlor-Alkali Cell Attributes
OP-UA55 - Transfer System Attributes
OP-UA56 - Vinyl Chloride Process Attributes
OP-UA57 - Cleaning/Depainting Operation Attributes
OP-UA58 - Treatment Process Attributes
OP-UA59 - Coke By-Product Recovery Plant Attributes
OP-UA60 - Chemical Manufacturing Process Unit Attributes
OP-UA61 - Pulp, Paper, or Paperboard Producing Process Attributes
OP-UA62 - Glycol Dehydration Unit Attributes
OP-UA63 - Vegetable Oil Production Attributes